REMARKS

Claims 1-13 and 17-32 are now pending in the application. Claim 1 has been amended. The amendment is supported by the disclosure as originally filed, including but not limited to these passages: page 10, line 24 ("Component (A) is an acrylate polymer solution."); page 19, lines 7-10 ("The inventively employed acrylate copolymers (A1) are prepared in an organic solvent or solvent mixture, which is preferably free of aromatic solvents, and in the presence of at least one polymerization initiator."); page 39, lines 5-26 ("The production of the subject coating material has no particular features, but is effected in conventional and known manner by mixing its essential constituents (A), (B), and (C) . . . . The constituents can be mixed with each other in any desired manner. For example, they can be introduced into the mixing assembly all at once. According to the invention, however, it is advantageous to initially charge the sol (C) and then to add the remaining constituents . . . ."); and the Examples (describing separate preparation of a stock coating material 1, an acrylate copolymer solution 2,, and a sol 3, then preparation of the coating by charging the prepared sol 3, adding to it the prepared stock coating material 1 and the acrylic solution 2, an additive, and ethanol "with stirring and mixing the constituents.").

The Examiner is respectfully requested to reconsider and withdraw the rejection in view of the remarks that follow.

Rejection Under 35 U.S.C. § 103(a) over Yamamoto et al. in View of Yamaya et al.

Claims 1-13 and 17-32 have been rejected as unpatentable over Yamamoto et al., U.S. Patent 5,385,988, in view of Yamaya et al., U.S. 5,973,068. Applicants respectfully traverse the rejection as applied to the amended claims and request reconsideration.

The combined references fail to suggest the present invention. First, as Applicants have previously argued, the coating material of the present invention is a mixture made by mixing together an acrylate copolymer, a stock coating material, and a sol. In contrast, the Yamamoto and Yamaya patents describe polymerizing acrylate monomers in the presence of silicone resins to produce an interpenetrating network of vinyl polymer and silicone resin. See Yamamoto '988 at column 2, lines 4-10 and Yamaya '068 at column 6, lines 37-52. In an interpenetrating network the vinyl polymer and the silicone polymer are networked into one structure.

The Examiner does not dispute Applicants' reading of the cited references, but argues that the interpenetrating networks of the references could be called "mixing products" as supported by the Yamamoto patent, column 8, lines 6-14 and the examples of the Yamaya patent.

The passage in the Yamamoto patent in column 8 describes mixing vinyl monomers with the silica polycondensates before polymerization. Thereafter, in remainder of column 8, the Yamamoto patent goes on to describe adding free radial polymerization initiator to make a casting material. To this point, there is still no acrylate copolymer present in the Yamamoto "mixture."

The casting material is then introduced into a cell and heated to a polymerization temperature to make a cast composite. Column 8, lines 42-62. Once cast, of course, the composition is incapable of performing as a sol-gel coating material.

The Yamaya '068 patent explicitly names its product as an interpenetrating network. Column 6, line 37. Applicants find nothing in the examples that is inconsistent.

The Applicants further draw the Examiner's attention to the introductory section to the article "Interpenetrating Polymer Networks," beginning on page 279, in volume 8 of the

Encyclopedia of Polymer Science and Engineering (2d ed. 1987). The article begins, "An interpenetrating polymer network (IPN) is an intimate combination of two polymer both in network form, at least one of which is synthesized or crosslinked in the immediate presence of the other." In the cited patents, the acrylate copolymer is synthesized in the presence of the silicone polymer. The introductory paragraph concludes, "Thus, in addition to mechanical blending and copolymerization, IPNs represent a third mechanism by which different polymers can be physically combined." Applicants' coating composition is a physical blend; the materials of the cited references are IPNs. On page 281 the article shows in Fig. 2 a physical blend (a) and various copolymers. On page 283, Table 1 lists types of IPNs, including thermoplastic IPN, in which both polymers are thermoplastic (i.e., not crosslinked).

Secondly, the claims as now written require that an acrylate copolymer solution be mixed together with a stock coating material and a sol. In both of the cited references, the silicone resin is mixed with acrylate monomers, not with an acrylate copolymer.

Finally, the claims as amended require that an acrylate copolymer solution be present at some point. The Yamaya '068 patent explicitly requires an emulsion composition. The Yamamoto'988 patent prepares only a solid acrylate copolymer (present in an IPN in the cast composite.

Thus, the cited references fail to disclose or suggest all aspects of the claimed invention, as is evidenced by the references themselves and supported by the article "interpenetrating Polymer Networks." Applicants, accordingly, respectfully request withdrawal of the rejection and reconsideration of the claims.

Conclusion

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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